

REMARKS

The claims have been amended to address the language objections, and also to better distinguish the claimed invention from the prior art. Support for the amendment of independent claim 1 may be found in the specification at p 10, line 24, through p 11, line 6. (See also Fig. 7). No new matter has been added.

Turning to the art rejections, and considering first the rejection of claim 1 under 35 U.S.C. § 103(a) as being unpatentable over Charbel et al. (U.S. Patent No. 7,191,110) in view of Okada et al. (U.S. Patent No. 6,673,020), independent claim 1, as amended, requires in part “wherein the error is computed as a difference between a component in the ultrasonic beam direction of the blood flow velocity vector obtained by said simulation unit and a corresponding component in the ultrasonic beam direction of the blood flow velocity vector obtained by said analysis processing unit.” It is submitted that neither of the cited prior art references teach or for that matter suggest this feature.

Charbel et al. is cited by the Examiner as teaching “a feedback unit which computes an error between the blood flow velocity obtained by said analysis processing unit and the blood flow velocity obtained by said simulation unit.” As noted in the Applicant’s previous amendment, which arguments are incorporated herein by reference, the adapting model of Charbel et al. does not compute an error, but merely changes the model to reflect empirical data (see col. 15, lines 55-59).

Furthermore, even assuming *arguendo* that the Examiner correctly characterizes the teachings of Charbel et al., Charbel et al. cannot be said to teach computing an error that is the difference between vector components of the simulation unit and analysis processing unit as

required by Applicants' claim 1. In fact, the computer model of Charbel et al. is incapable of doing so as it is one-dimensional (see col. 16, line 60).

It is not seen that the secondary reference Okada et al. supplies the missing teachings to Charbel et al. to achieve or render obvious claim 1. Okada et al. has been cited as teaching an ultrasonic measurement unit which emits an ultrasonic signal towards a blood vessel in a human body to receive the reflected ultrasonic signal. Even assuming *arguendo* Okada et al. is as the Examiner characterizes this reference, it does not supply the more basic and essential features missing from the primary reference Charbel et al. as discussed above. Accordingly, it is submitted that no combination of Charbel et al. and Okada et al. could be said to achieve or render obvious claim 1.

Turning to the rejection of claims 3 and 4 as being unpatentable over Charbel et al. in view of Okada et al. and further in view of Hayase et al. ("Numerical Realization of Flow Field by Integrating Computation and Measurement", Proceedings of 5th World Congress on Computational Mechanics (2002)), claim 4 has been cancelled. Claim 3 depends upon claim 1. The deficiencies of Charbel et al. and Okada et al. vis-à-vis claim 1 are discussed above. Hayase et al. fails to supply the missing teachings to render obvious independent claim 1. Moreover, the cited Hayase reference fails to teach an equation wherein the beam direction is normalized. Thus, no combination of Charbel et al. and Okada et al. with Hayase et al. can render obvious claim 1 or claim 3 which depends thereon.

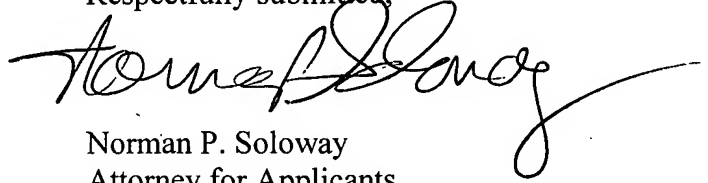
Having dealt with all the objections raised by the Examiner, the Application is believed to be in order for allowance. Early and favorable action are respectfully requested.

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Respectfully submitted,



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